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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,518	06/25/2003	Albert M. David	2-1045-032	3245

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STURM & FIX LLP
206 SIXTH AVENUE
SUITE 1213
DES MOINES, IA 50309-4076

EXAMINER	
PERVAN, MICHAEL	
ART UNIT	**PAPER NUMBER**
2629	

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/603,518	DAVID, ALBERT M.	
	Examiner	Art Unit	
	Michael Pervan	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) *33-35* is/are withdrawn from consideration.

5)☒ Claim(s) *36-53* is/are allowed.

6)☒ Claim(s) *1,3-5,9,11,13-15,19,21-24,27 and 29-31* is/are rejected.

7)☒ Claim(s) *32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3-5, 9, 11, 13-15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Divigalpitiya et al (US 6,809,280) in view of Verlinden et al (US 6,287,674) in further view of Takahata et al (US 6,556,189).

In regards to claims 1 and 11, Divigalpitiya discloses a flexible membrane for a resistive touch screen display (col. 4, lines 33-35 and 59-65; since one of the conductive layers is movable it is also flexible).

Divigalpitiya does not disclose said flexible membrane comprising a glass laminate, wherein said glass laminate consists of an ultra-thin glass layer having upper and lower surfaces and a peripheral edge, a polymer layer having upper and lower surfaces and a peripheral edge therebetween, an adhesive layer between said glass layer and said polymer layer for bonding the two layers together, said glass layer being smaller than said polymer layer wherein said peripheral edge of said glass layer lies within said peripheral edge of said polymer layer.

Verlinden discloses said flexible membrane comprising a glass laminate (col. 3, lines 3-4; laminate contains a glass layer and is therefore a glass laminate), wherein said glass laminate consists of an ultra-thin glass layer having upper and lower surfaces

and a peripheral edge (col. 3, lines 3-4; ultra-thin glass layer and thin borosilicate glass layer are both thin), a polymer layer having upper and lower surfaces and a peripheral edge (col. 5, lines 45-53; the support could be poly(ethylene terephthalate) (PET) which is a polymer), an adhesive between said glass layer and said polymer layer for bonding the two layers together (col. 3, lines 6-10 and col. 5, lines 62-65).

It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden, having flexible membrane comprising glass laminate, by incorporating the teachings of Verlinden into Divigalpitiya because the laminate keeps glass fragments on the support in the event that the glass should break (col. 3, lines 57-65).

Divigalpitiya and Verlinden do not disclose said glass layer being smaller than said polymer layer wherein said peripheral edge of said glass layer lies within said peripheral edge of said polymer layer.

Takahata discloses said glass layer (2) being smaller than said polymer layer (1) wherein said peripheral edge of said glass layer lies within said peripheral edge of said polymer layer (Fig.1; as can be seen from the drawing, the right peripheral edge of the glass layer lies within the right peripheral edge of the polymer layer).

It would have been obvious at the time of invention to modify Divigalpitiya and Verlinden with the teachings of Takahata it allows for more flexibility since there is no glass on the edges to stiffen the polymer layer.

In regards to claim 3 and 13, Divigalpitiya does not disclose adhesive sealing around said peripheral edge of said glass layer.

Verlinden discloses adhesive sealing around said peripheral edge of said glass layer (col. 6, lines 22-30; in the case of excess adhesive, the adhesive would be squeezed out along the edges of the glass substrate and support).

It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden having optical adhesive being allowed to build-up about the edges of said glass layer to be incorporated to Divigalpitiya because it would make the bond between the glass layer and the polymer layer stronger since the adhesive would be holding the two layers together on a total of five sides.

In regards to claims 4 and 14, Divigalpitiya does not disclose said glass layer being approximately 0.5 mm thick.

Verlinden discloses said glass layer is approximately 0.5 mm thick (col. 3, lines 45-50; since the range in thickness of the glass is from 10 μm to 450 μm, which is 0.01 mm to 0.45 mm, the glass is approximately 0.5 mm thick).

It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden because its gives the glass more flexible (col. 3, lines 46-50; since the brittleness decreases with thickness, the thinner the glass the more flexible it becomes).

In regards to claims 5 and 15, Divigalpitiya does not disclose said polymer layer comprising a polyester film approximately 0.175 mm thick.

Verlinden discloses said polymer layer comprising a polyester film approximately 0.175 mm thick (col. 5, lines 45-53; the support could be PET which is a type of

polyester. Also, the thickness is less than 250 μm which is 0.250 mm, therefore the thickness is approximately 0.175 mm).

Since there was no benefit or advantage described in the specification for choosing polyester, the examiner believes this to be a designer's choice.

In regards to claims 9 and 19, Divigalpitiya does not disclose said adhesive being an optical adhesive formed in a uniform thickness in the range of approximately 0.025 to 0.05 mm in the area between said glass layer and said polymer layer.

Verlinden discloses said adhesive being an optical adhesive formed in a uniform thickness in the range of approximately 0.025 to 0.05 mm in the area between said glass layer and said polymer layer (col. 6, lines 22-30; by virtue of being laminated with a laminator the thickness of the optical adhesive would be uniform, since laminators are designed to give even pressure along the rollers).

Since there was no benefit or advantage described in the specification for choosing a thickness of 0.025 to 0.05 mm, the examiner believes this to be a designer's choice based on the required specification by the user.

3. Claims 21-24, 27 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Divigalpitiya et al in view of Verlinden et al in further view of Aufderheide et al (US 6,555,235) in further view of Robsky et al (US 5,838,309) in further view of Takahata et al.

In regards to claim 21, Divigalpitiya discloses a resistive touch screen display said display comprising, a flexible membrane (col. 4, lines 33-35 and 59-65; since one of the conductive layers is movable it is also flexible), a backing surface (col. 4, lines 43-

65; the backing surface is the support of the conductive layer 120), a first conductive layer 110 applied to said lower surface of said polymer layer (col. 4, lines 45-65), a second conductive layer 120 applied to said backing surface (col. 4, lines 45-65) and sensors used to detect where said first conductive layer contacts said second conductive layer (col. 3, lines 1-5; since the device can measure the signal created from contact it must have sensors to detect such contact), refer to rejections of claims 1 and 11.

Divigalpitiya does not disclose wherein said flexible membrane consists of an ultra-thin glass layer having upper and lower surfaces and a peripheral edge therebetween, a polymer layer having upper and lower surfaces and a peripheral edge therebetween, said glass layer being smaller than said polymer layer wherein the peripheral edge of said glass layer lies within the peripheral edge of said polymer layer, a pressure sensitive adhesive affixed between the periphery of said polymer layer and said backing surface and an elastic tensioner affixed between the periphery of said polymer layer and said backing surface, said elastic tensioner being adjacent to said pressure sensitive adhesive.

Verlinden discloses wherein said flexible membrane consists of an ultra-thin glass layer having upper and lower surfaces and a peripheral edge therebetween (col. 3, lines 3-4; ultra-thin glass layer and thin borosilicate glass layer are both thin), a polymer layer having upper and lower surfaces and a peripheral edge therebetween (col. 5, lines 45-53; the support could be poly(ethylene terephthalate) (PET) which is a

polymer) and an adhesive between said glass layer and said polymer layer for bonding the two layers together (col. 3, lines 6-10).

It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden having flexible membrane comprising glass laminate to be incorporated to Divigalpitiya because as motivated by Verlinden the laminate keeps glass fragments on the support in the event that the glass should break (col. 3, lines 57-65).

Divigalpitiya as modified does not disclose said glass layer being smaller than said polymer layer wherein the peripheral edge of said glass layer lies within the peripheral edge of said polymer layer, a pressure sensitive adhesive affixed between the periphery of said polymer layer and said backing surface and an elastic tensioner affixed between the periphery of said polymer layer and said backing surface, said elastic tensioner being adjacent to said pressure sensitive adhesive.

Aufderheide discloses a pressure sensitive adhesive affixed between the periphery of said polymer layer and said backing surface (col. 4, lines 43-57).

It would have been obvious at the time of invention to modify Divigalpitiya as modified with the teachings of Aufderheide because it allows for contact between the two conductive layers as well as serving as a insulator between the two conducting layers (col. 4, lines 13-16).

Divigalpitiya as modified does not disclose said glass layer being smaller than said polymer layer wherein the peripheral edge of said glass layer lies within the peripheral edge of said polymer layer and an elastic tensioner affixed between the

periphery of said polymer layer and said backing surface, said elastic tensioner being adjacent to said pressure sensitive adhesive.

Robsky discloses an elastic tensioner affixed between the periphery of said polymer layer and said backing surface, said elastic tensioner being adjacent to said pressure sensitive adhesive (Figure 9 and col. 4, lines 61-67; substrate 16c is the backing surface, membrane 24c is the glass laminate and peripheral compressible members 22c are the elastic tensioner).

It would have been obvious at the time of invention to modify Divigalpitiya as modified with the teachings of Robsky because it prevents the first conductive layer from sagging and contacting the second conductive layer causing a false touch (col. 1, lines 16-19).

Divigalpitiya as modified does not disclose said glass layer being smaller than said polymer layer wherein the peripheral edge of said glass layer lies within the peripheral edge of said polymer layer.

Takahata discloses said glass layer being smaller than said polymer layer wherein the peripheral edge of said glass layer lies within the peripheral edge of said polymer layer (Fig.1; as can be seen from the drawing, the right peripheral edge of the glass layer lies within the right peripheral edge of the polymer layer).

It would have been obvious at the time of invention to modify Divigalpitiya and Verlinden with the teachings of Takahata it allows for more flexibility since there is no glass on the edges to stiffen the polymer layer.

In regards to claim 22, Divigalpitiya does not disclose said glass layer being approximately 0.5 mm thick.

Verlinden discloses said glass layer is approximately 0.5 mm thick (col. 3, lines 45-50).

It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden because its gives the glass more flexible (col. 3, lines 46-50; since the brittleness decreases with thickness, the thinner the glass the more flexible it becomes).

In regards to claim 23, Divigalpitiya does not disclose said polymer layer being a polyester film.

Verlinden discloses said polymer layer being a polyester film (col. 5, lines 45-53; the support could be PET which is a type of polyester).

Since there was no benefit or advantage described in the specification for choosing polyester, the examiner believes this to be a designer's choice.

In regards to claim 24, Divigalpitiya does not disclose said polyester film being approximately 0.175 mm thick.

Verlinden discloses said polyester film is approximately 0.175 mm thick (col. 5, lines 54-55; since the thickness is less than 0.250 mm it is approximately 0.175 mm).

Since there was no benefit or advantage described in the specification for choosing a thickness of 0.175 mm, the examiner believes this to be a designer's choice based on the required specification by the user.

In regards to claim 27, Divigalpitiya does not disclose said adhesive being an optical adhesive formed in a uniform thickness in the range of 0.025 to 0.05 mm in the area between said glass layer and said polymer layer.

Verlinden discloses said adhesive being an optical adhesive formed in a uniform thickness in the range of 0.025 to 0.05 mm in the area between said glass layer and said polymer layer. (col. 6, lines 22-30; by virtue of being laminated with a laminator the thickness of the optical adhesive would be uniform, since laminators are designed to give even pressure along the rollers).

Since there was no benefit or advantage described in the specification for choosing a thickness of 0.025 to 0.05 mm, the examiner believes this to be a designer's choice based on the required specification by the user.

In regards to claim 29, Divigalpitiya does not disclose adhesive forming a bead about the peripheral edge of said glass layer.

Verlinden discloses adhesive forming a bead about the peripheral edge of said glass layer (col. 6, lines 22-30; in the case of excess adhesive, the adhesive would be squeezed out along the edges of the glass substrate and support).

It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Verlinden having optical adhesive being allowed to build-up about the edges of said glass layer to be incorporated to Divigalpitiya because it would make the bond between the glass layer and the polymer layer stronger since the adhesive would be holding the two layers together on a total of five sides.

In regards to claim 30, Divigalpitiya does not disclose said elastic tensioner comprising a silicon rubber.

Robsky discloses said elastic tensioner preferably comprising a silicon rubber (col. 4, lines 61-67; silicon rubber is being interpreted as rubber).

It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Robsky because rubber is durable and would increase the longevity of the device since it would keep the membrane taught longer than other materials.

In regards to claim 31, Divigalpitiya does not disclose touch screen further comprising an area insulator layer between said polymer and said pressure sensitive adhesive.

Aufderheide discloses touch screen further comprising an area insulator layer between said polymer and said pressure sensitive adhesive (col. 4, lines 25-32).

It would have been obvious at the time of invention to modify Divigalpitiya with the teachings of Aufderheide because it aids in insulating the two conductive layers from each other (col. 4, lines 25-32).

Allowable Subject Matter

4. Claims 36-53 are allowed.

5. Claim 32 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the examiner was not able to find said area insulator comprising an ultraviolet ink film.

Response to Arguments

6. Applicant's arguments filed June 29, 2006 have been fully considered but they are not persuasive.

Applicant (on pages 13-14 of argument) argued that glass layer of Verlinden is not flexible enough to be used as a flexible switch layer. Examiner respectfully disagrees.

Verlinden states that "the lower the thickness of the glass, the higher its flexibility and thus the lower the minimum radius of the core around which the material can be wound without breaking". Since the thickness of Verlinden's glass laminate is approximately the same size as that of the applicant's glass laminate and the applicant's glass laminate can be wound around a 90 mm radius, so too can Verlinden's glass laminate.

In response to applicant's argument that "the glue is intended to provide an adhesive fill to stabilize any chips or cracks that may exist at the edges of the glass", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Applicant (on page 16 of argument) argued that Verlinden does not teach or suggest excessive adhesive and Verlinden does not teach or suggest a larger lower surface for adhesive to build up on. Examiner respectfully disagrees.

Verlinden states that "the adhesive layer may be applied either to the glass substrate, to the support, or to both". Since the adhesive can be applied to both the glass layer and the polymer layer, there would be excess adhesive.

Applicant (on page 14 of argument) argued that Verlinden does not teach a larger lower surface to allow the adhesive to build up on. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that "Applicant's elastic tensioner, unlike Robsky, prevents bunching or sagging of the switch layer via shear pull at the edges of the first conductive layer following a thermal contraction and then expansion", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Applicant (on page 16 of argument) argued that the elastic tensioner of Robsky would be incompatible with the thin profile and conventional construction of touch screen displays. Examiner respectfully disagrees.

Since the material used in the elastic tensioners (peripheral compressible members) of Robsky can be silicone or rubber, they can be made thin enough to be compatible with thin profile touch screen displays.

Applicant (on page 16 of argument) argued that Takahata does not teach or suggest lamination of a polyester and glass film together. Examiner respectfully disagrees.

Takahata was provided only to show that the glass layer lies within the peripheral edge of the polymer layer. Even though the two layers are not bonded together, Takahata shows that it is possible, when combined with Verlinden, to have a glass laminate, wherein a peripheral edge of the glass layer lies within a peripheral edge of the polymer layer.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Pervan whose telephone number is (571) 272-0910. The examiner can normally be reached on Monday - Friday between 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MVP
Sept. 13, 2006

AMR A. AWAD
SUPERVISORY PATENT EXAMINER